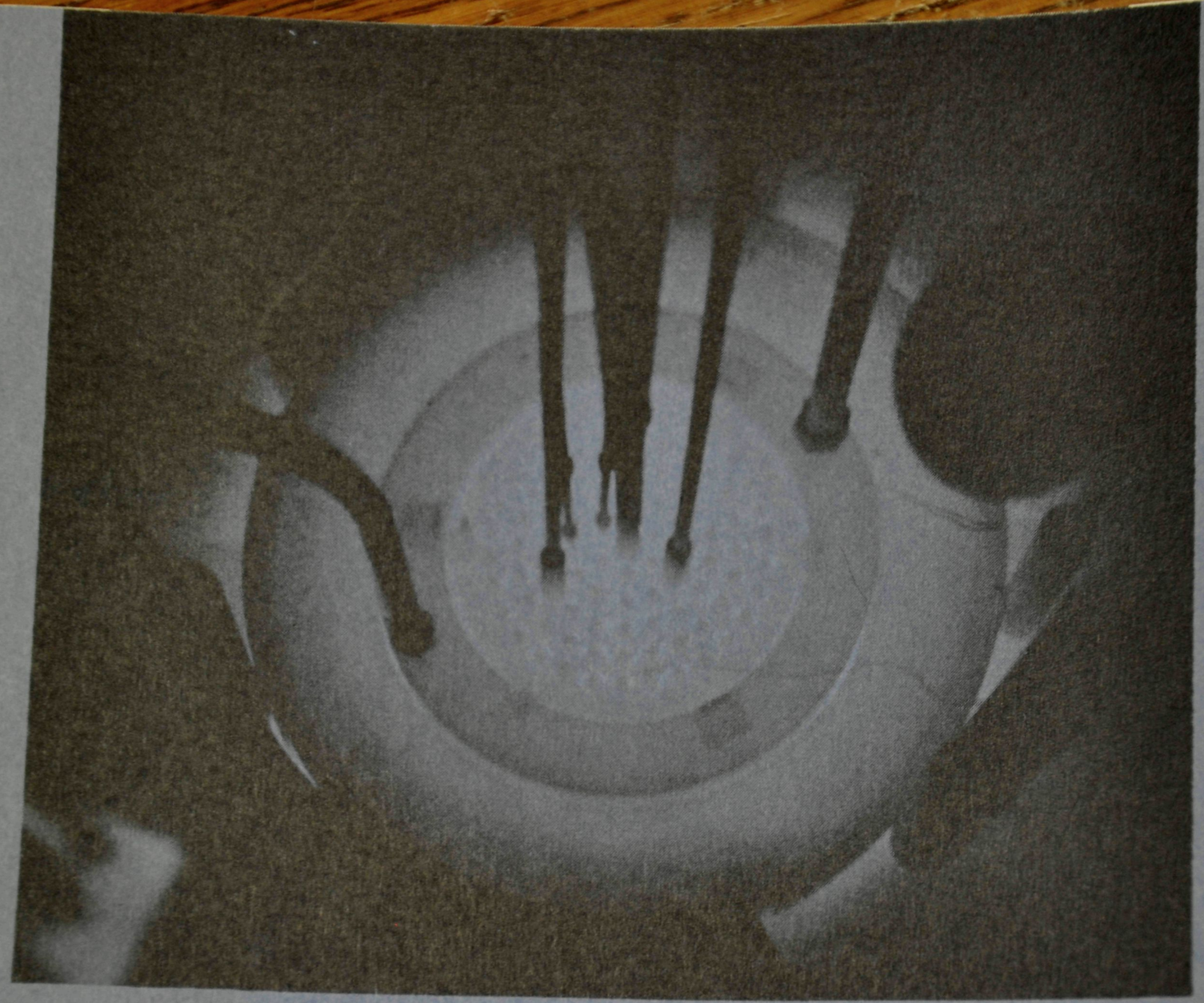


engineering open house

MARCH 8 • 12 A.M. TO 8 P.M. • MARCH 9 • 9 A.M. TO 3 P.M.

ENGINEERING OPEN HOUSE CENTRAL COMMITTEE

General Chairman
Robert Giertz

Awards & Exhibits
John Funk

Tours
Bob Bower

Special Guests
Ray Klinger

Space
Csaba Kohalmi

Information
John Urbance

Faculty Advisor
Prof. Richard N. Wright

Publicity
Vivian Brosey

High School Visitation
Liz Koranyl
Llyn Granzow

Graphic Arts
John Hughes

Traffic
Ellwyn Englof
Bill Burrzinski

Safety
George Elmos

DEPARTMENT STUDENT REPRESENTATIVES

Aero. & Astro.
Roger Keithley

Agriculture
Wayne Knepp

Ceramic
Jim Brunner

Chemical
Bob Griffiths

Civil
Frank Smilgis

Computer Science
Vivian Chan

General
Dave White

Mechanical
Ed Kiedaisch

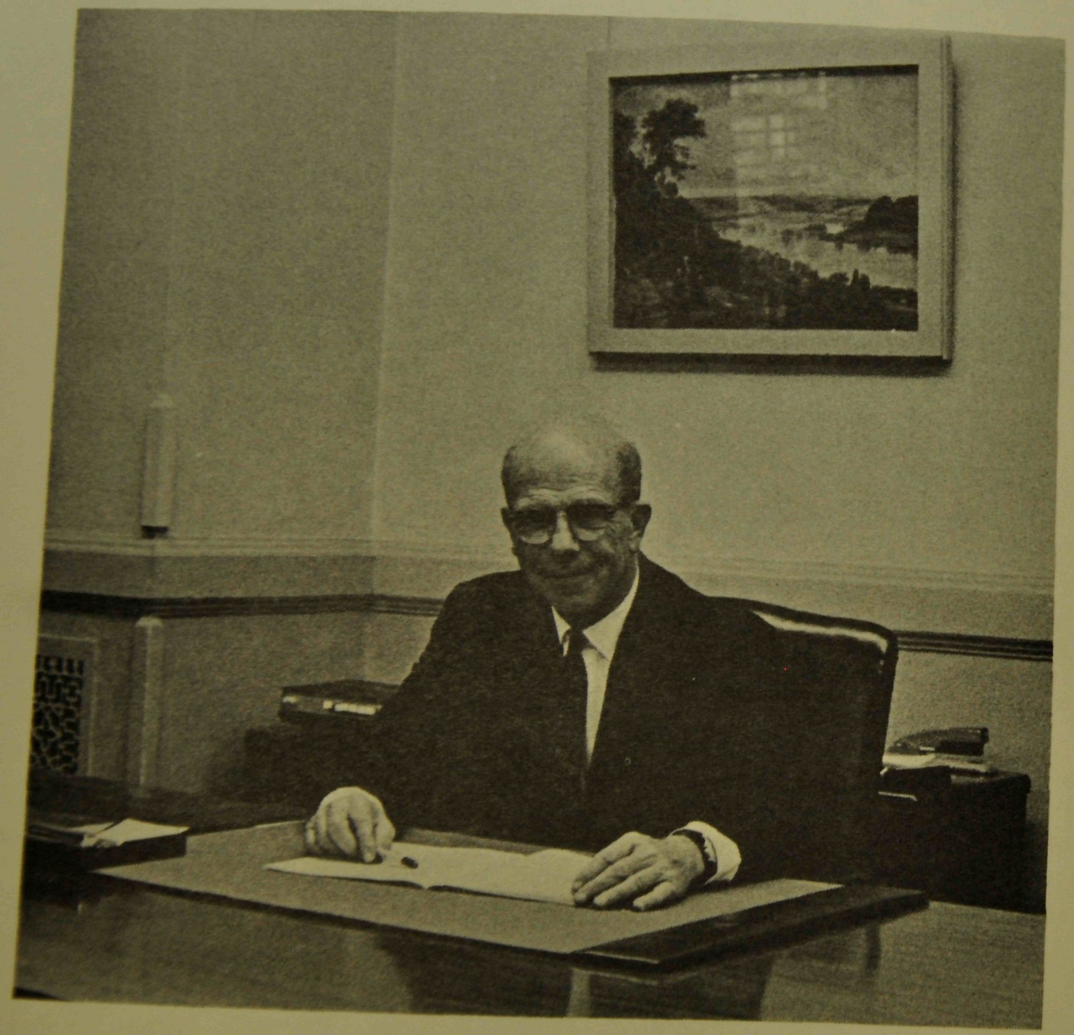
Metallurgy
Mike Fiene

T. & A.M.
George Steinmetz

Physics
Dave Turner

Electrical
James Vacherlon

WELCOME TO ENGINEERING OPEN HOUSE



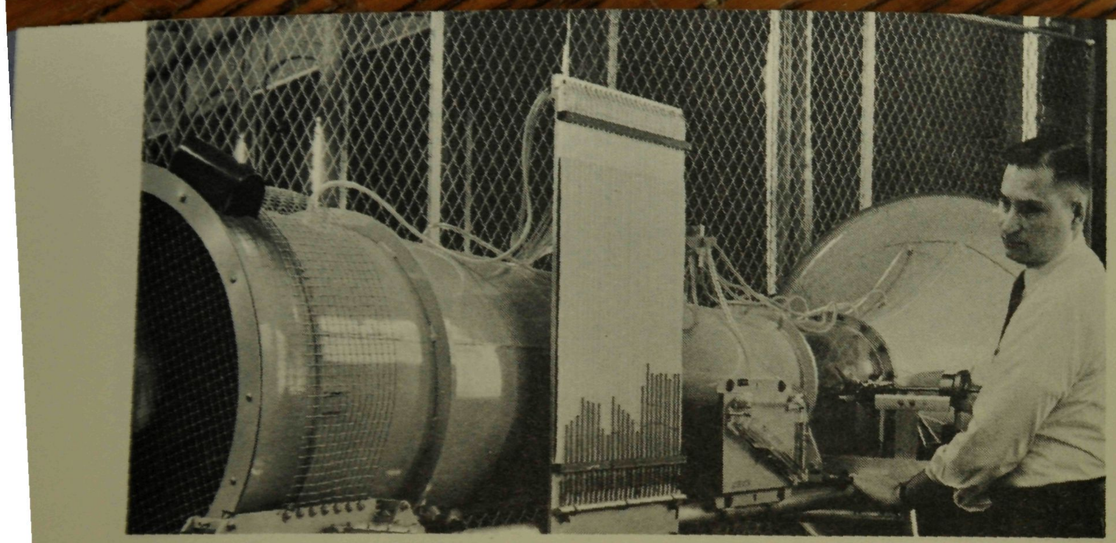
WELCOME TO ENGINEERING OPEN HOUSE

Today, in our trouble-ridden world, the profession of engineering is being challenged. It is confronted with problems ranging from air and water pollution to urban congestion, problems resulting from the population explosion, underprivileged people, automation, and a host of other causes. We see these challenges reflected in the interests of our students, and understand that these young people who want a better world and society will be the people who will help to create it.

No engineer will assert that technology can provide all the solutions for these problems, but it seems safe to assert that they will not be solved without the active participation of well-educated engineers. Engineering needs a continuing flow of bright young people who are interested in trying to cope with such problems, and our present-day students are also aware of and concerned about this need. For this reason they have developed some new ideas for this year's Open House, programs designed to inform high school students accurately about our educational programs and the challenges facing the profession.

I feel that they have done an excellent job for an excellent cause, and I hope that if you do feel challenged you will not hesitate to ask any questions you may have.

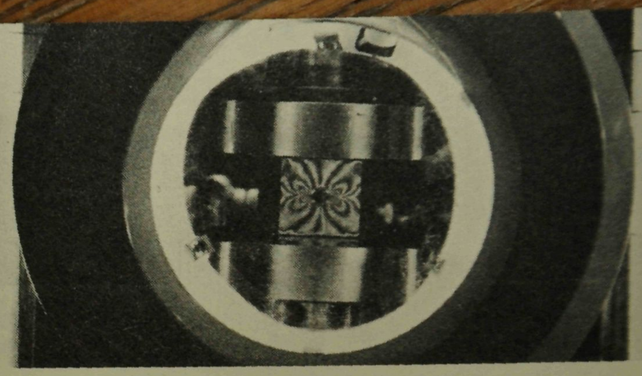
W. L. Everitt
Dean



AERONAUTICAL AND ASTRONAUTICAL ENGINEERING

Research in aeronautical and astronautical engineering deals with problems encountered in advancing the development of airplanes, missiles, and space vehicles, their specific propulsion systems and their structural mechanics. Special attention today is given to the supersonic transport, the vertical-take-off, and manned space vehicles.

Exhibits: (Aeronautical Engineering Laboratory B)
- -Boeing SST Model
- -Ram Jet
- -Supersonic and Subsonic Wind Tunnels
- -Plasma Jet
- -NASA Space Exhibits
- -Orbits and Trajectories



AGRICULTURAL ENGINEERING

Agricultural engineering serves the farmer by dealing with the engineering problems associated with the production, processing, and handling of food, by developing mechanization processes to stimulate agricultural production, to improve food handling and storage, and to use power and energy effectively. The agricultural engineer's research is complicated because experimental control of the work in the field and with biological materials is a complex problem and sometimes requires joint efforts with researchers from areas such as biology, animal science, or plant science.

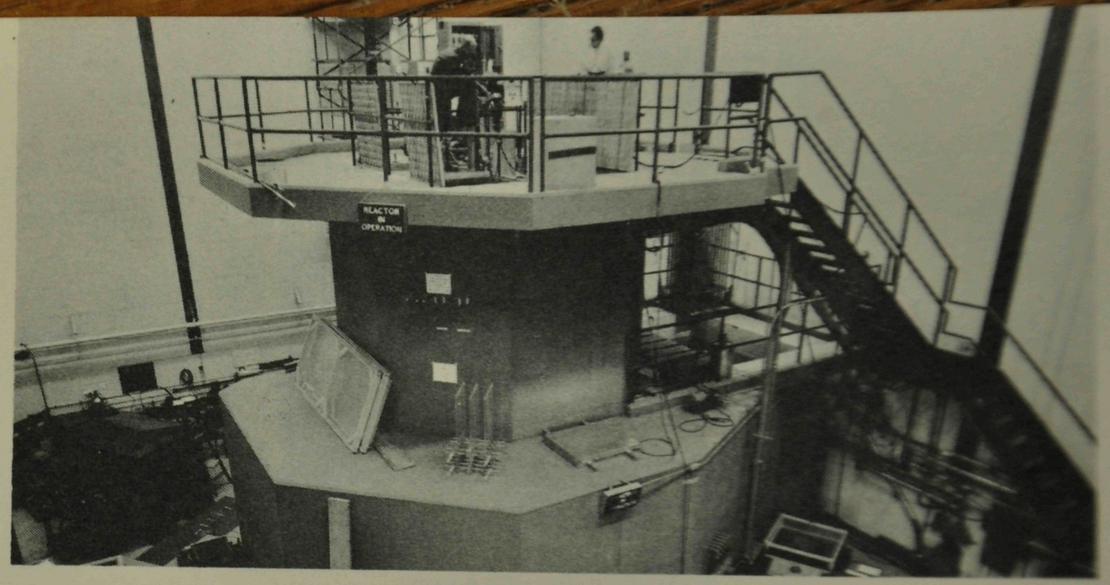
Exhibits: (Agricultural Engineering Building)
- -Pilotless prime mover
- -Rural waste management
- -Automated materials handling
- -Soils dynamics and soil bin studies
- -Student branch exhibits

Bus service is provided to the Agricultural Engineering Building - see map on back cover.

CERAMIC ENGINEERING

Expanding interest in ceramic engineering is stimulated by the need for new materials to resist extreme conditions of service such as high temperatures. The demands for higher strength, lighter weight, or greater density in ceramic materials motivate intensified research in fibers, recrystallized glass, ceramic coatings, refractories, electrical ceramics, cements, and composites. Special properties of ceramic materials are being developed for use as semiconductors, nonmetallic magnets, and ferroelectrics.

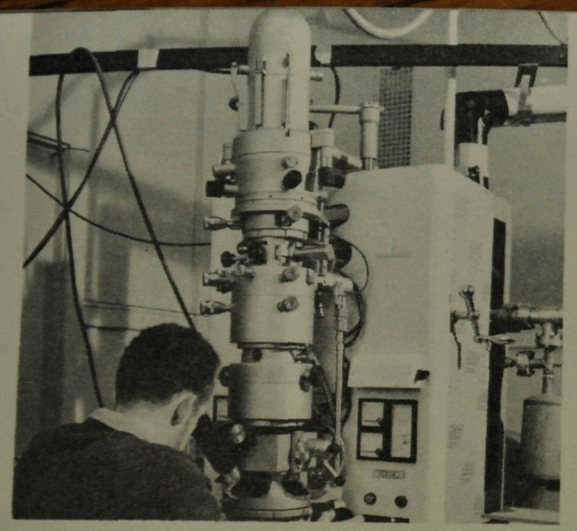
Exhibits: (Ceramic Engineering Building)
- -Application of glassy coatings to substrates
- -Properties of modern ceramic materials
- -Ceramics and temperature
- -Ceramographic exhibit



CHEMICAL ENGINEERING

The chemical engineer applies principles of physics, mathematics, and chemistry as a basis for extending and interpreting the results of his experiments which deal with the development of chemical products and their application to modern life. Products such as synthetic fiber, plastics, dyes, detergents, gasoline, and glue were created in the chemical engineer's laboratory.

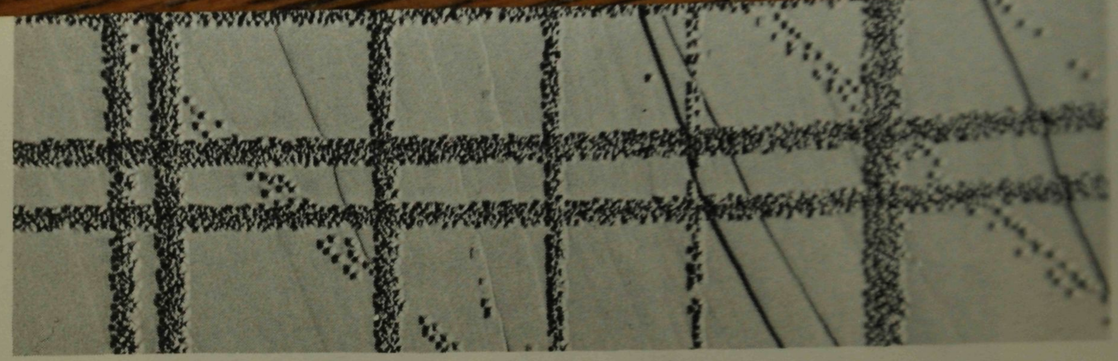
Exhibits: (East Chemistry Building)
- -Glass distillation column
- -Stirred tank reactor
- -Glass absorption tower - chem pop
- -Fluidized bed regenerator



CIVIL ENGINEERING

Students in Civil Engineering receive systematic training in the basic principles underlying planning, design, and construction in the four major subdivisions of civil engineering: structural engineering, transportation, hydraulics, and sanitation. Civil engineers find rewarding careers in the construction industry, in government, and in private practice.

Exhibits: (Civil Engineering Building)
- -Building and bridge design
- -Materials for construction
- -Transportation systems
- -Water and air pollution control
- -Water conservation and use
- -Photogrammetric and geodetic engineering
- -Building in the ocean



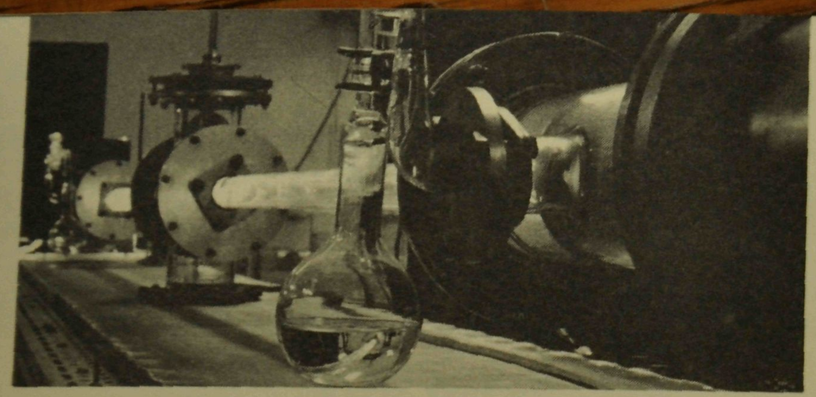
COMPUTER SCIENCE

The Department of Computer Science at the University of Illinois is one of the oldest in the country. An undergraduate degree in Computer Science is not offered, but for the interested student, there is a joint program with the Department of Mathematics leading to a major in Mathematics and Computer Science.

The curriculum and research in computer science emphasizes programming computer circuitry, numerical analysis, switching theory, and threshold logic.

There are many opportunities for the ambitious student to gain practical experience in these areas. In particular, many students are employed part-time to help with the many programming and operating tasks associated with computer installation.

Exhibits: (Digital Computer Laboratory)
- -Cathode ray tube and computer
- -Data processing and service
- -Hybrid digital-analog circuit applications



ELECTRICAL ENGINEERING

Present-day engineering is facing rapid changes at its scientific frontiers, and in order to keep the student in electrical engineering in close touch with current research the department maintains a close relationship between teaching and research; an outstanding characteristic of its educational program is the rapidity with which ideas generated in the laboratory become subject of classroom discussion. The areas of research and study are extremely diverse, ranging from electromagnetic theory to power generation and distribution, and from communications techniques to aeronomy.

Exhibits: (Electrical Engineering Building)
- -Demonstration classes
- -Laboratory tours
- -Plasma torch
- -Lasers and radar
- -Halography
- -Society of Women Engineers

GENERAL ENGINEERING

General engineering at the University of Illinois provides a comprehensive program in the basic sciences, in the engineering sciences, and in the study of basic design methods involving the problems and disciplines of several major fields. The education of the general engineer is broader in scope and more diversified in subject matter than the specialized curricula in engineering generally allow. The graduate in general engineering is well prepared for professional practice, and also has the background needed for engineering administration or other careers related to engineering. The general engineering curriculum is unique in its flexibility. Students receive the usual basic science courses, a thorough knowledge in the engineering sciences, and five design courses to provide a thorough background of analysis and synthesis for application to solutions of practical engineering design problems.

Exhibits: (Transportation Building)
- -Graphics
- -The student engineer
- -Engineering law and history
- -Design problems in industry
- -The product of an engineering education

MECHANICAL AND INDUSTRIAL ENGINEERING

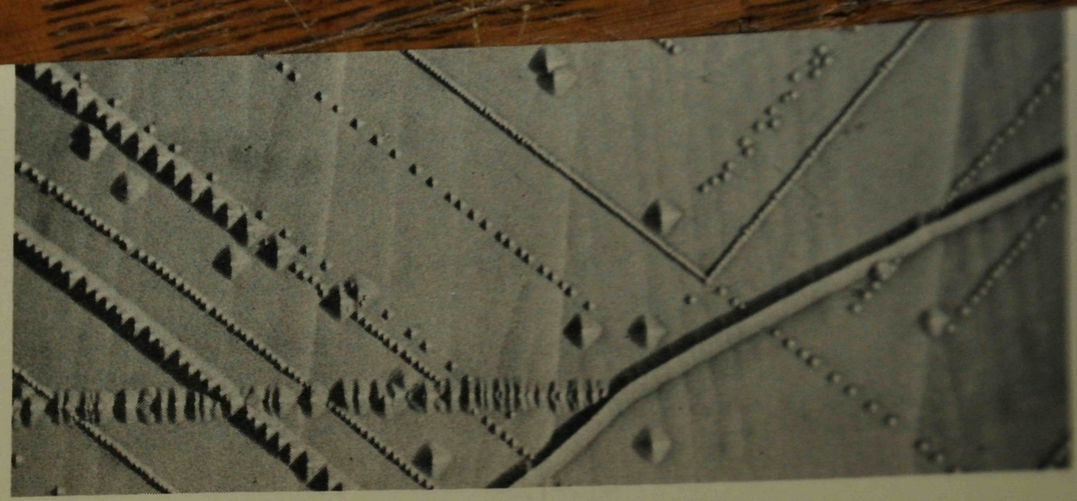
The fields of mechanical and industrial engineering are interrelated and in some areas complementary. The mechanical engineer is primarily concerned with the conversion and transmission of energy. This may manifest itself in many phases: research, development, and production. It is in the production phase that interrelation between the two fields is most clearly exemplified.

The mechanical engineer, through his training in thermodynamics, machine design, and production processes, is concerned with the design, construction, and operation of mechanical equipment. The industrial engineer, through his training in planning, control, and operations research, is concerned with the integration of men, materials, and equipment in order to provide the most efficient and economic implementation of existing resources.

Exhibits: (Mechanical Engineering Building)
- -Internal combustion engine
- -Computers
- -Ash tray manufacturing
- -Design models
- -Pi Tau Sigma exhibits
- -Motorcycle testing

(Mechanical Engineering Laboratory)
- -Water table
- -Air flow
- -Heat transfer

(Foundry - Woodshop Building)
- -Foundry and metals formation

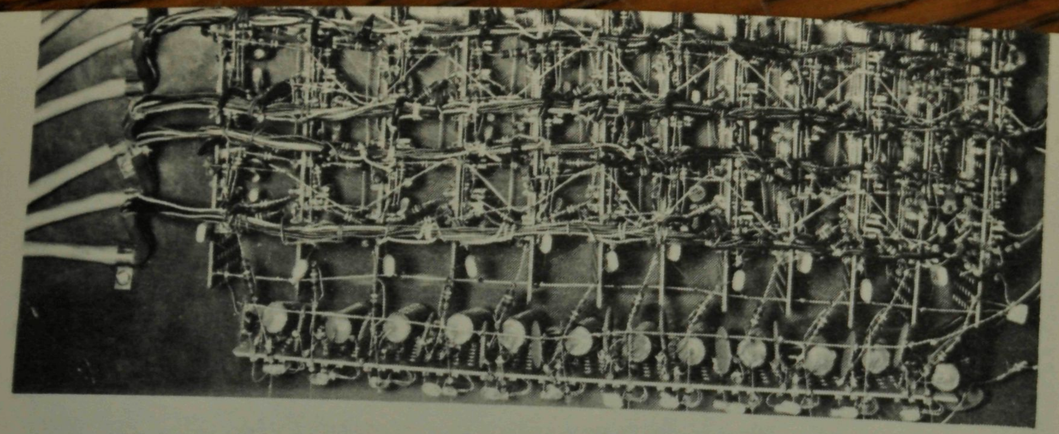


MINING, METALLURGY, AND PETROLEUM ENGINEERING

Metallurgy is the study of metals: how they are made, how they are fabricated into shapes, how their properties are controlled for maximum usefulness.

Metallurgy is a field of both engineering and science. The professional metallurgist may supervise a wide range of manufacturing processes, be associated with the development of new metallic materials, or be engaged in fundamental research to produce an understanding of the reasons for the behavior of metals and the ways by which their properties may be controlled.

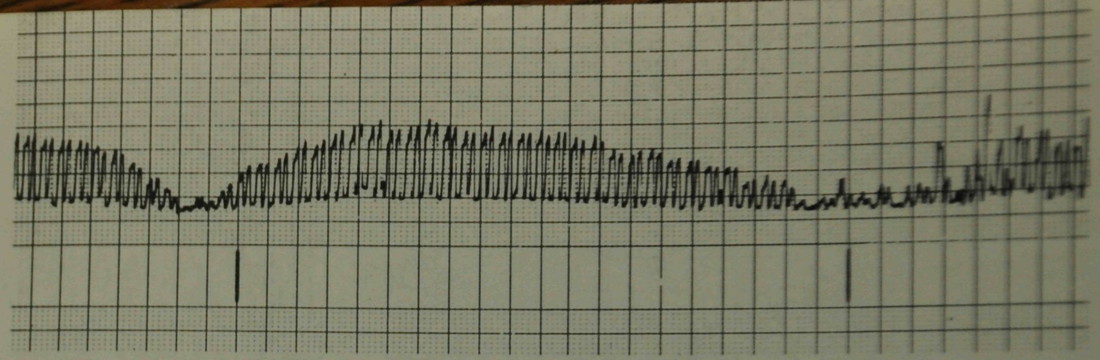
Exhibits: (Metallurgy and Mining Building)
- -X-ray studies of metals
- -Physics of metallurgy
- -Powder metallurgy
- -Corrosion



PHYSICS

The fields of research in physics include nuclear and elementary particle physics; solid state physics including the study of metals, ionic crystals and semiconductors, and magnetic resonance phenomena; low-temperature physics; surface, thin film and plasma physics; and a wide range of theoretical research in these fields. The demands on an engineering physicist are becoming increasingly complex, and a student needs a broad and thorough training in fundamental physics and mathematics.

Exhibits: (Physics Building)
- -Holograms
- -Microwave interference and diffraction
- -Magnetism and motion
- -Lasers
- -Spark chambers
- -J.E.T. exhibit
- -Superconducting linear accelerator



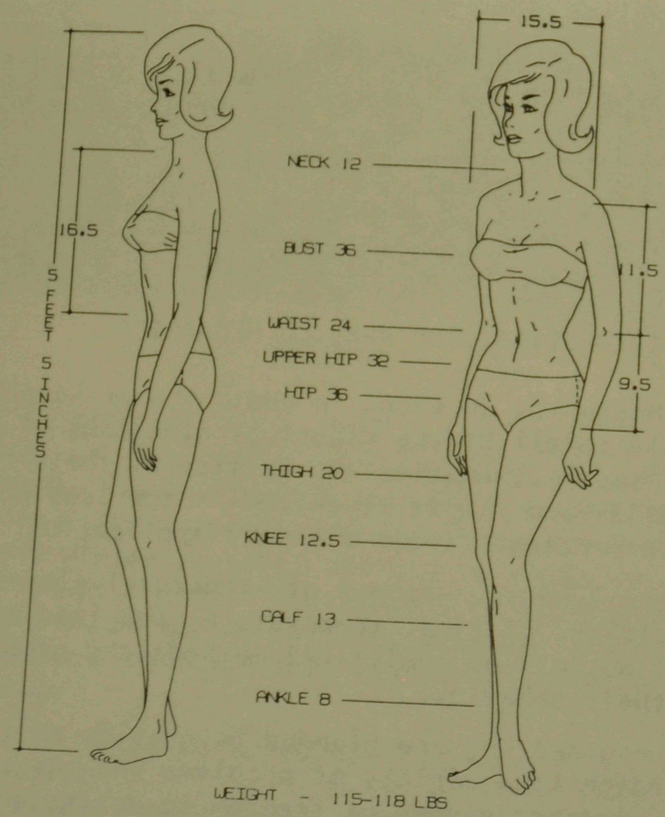
THEORETICAL AND APPLIED MECHANICS

Engineering Mechanics develops in depth the principles which are applicable to all of the classical divisions of engineering. It utilizes mathematics and physics as tools to investigate both solids and fluids to determine the laws which govern their behavior whatever their ultimate application.

The static and dynamic response of structural elements under varying conditions of time, temperature, and load are studied. Experimental as well as analytical methods are used to predict and verify their behavior.

Science and engineering are blended to provide an interdisciplinary approach to a variety of problems and the student is offered the greatest degree of freedom to define and pursue problems in his chosen area of interest.

Exhibits: (Talbot Laboratory)
- -Fluid mechanics
- -Buckling, tension and compression
- -Plastic strain experiment



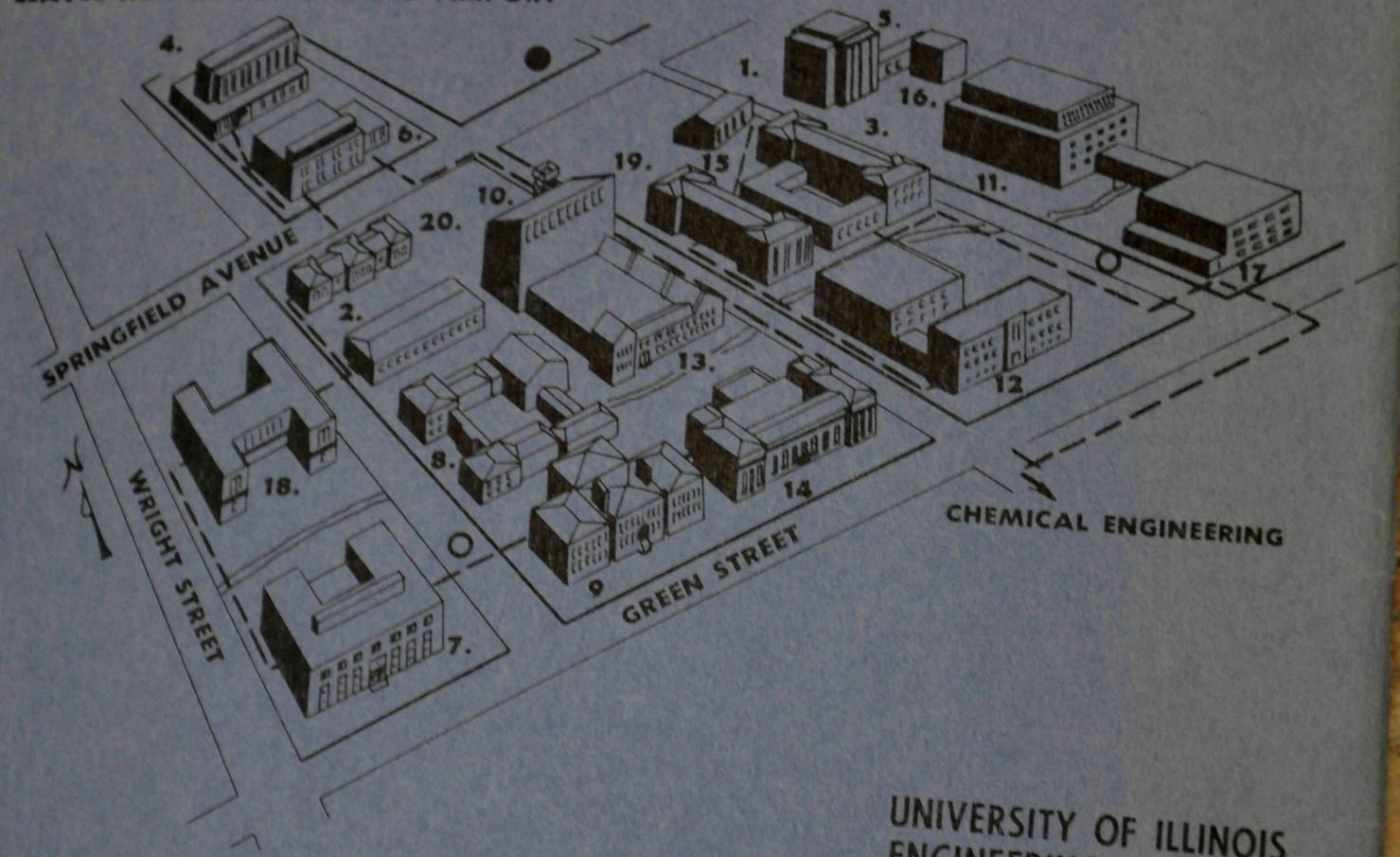
Hanky-panky in the laboratory? Not quite. This drawing of what might be called the typical U of I co-ed demonstrates the versatility of the Cal-Comp digital plotter. The digital plotter is part of the facilities of the computer service area of DCS available to the students and faculty.

ST. PAT'S BALL

Saturday, March 9, Engineering Council sponsors the annual St. Pat's Ball, from 9 PM to 1 AM, in the Illini Union, rooms A, B, and C. Music is by Wayne Karr and his Orchestra.

— tickets at door —

INSTITUTE OF AVIATION BUS
LEAVES HOURLY FOR WILLARD AIRPORT



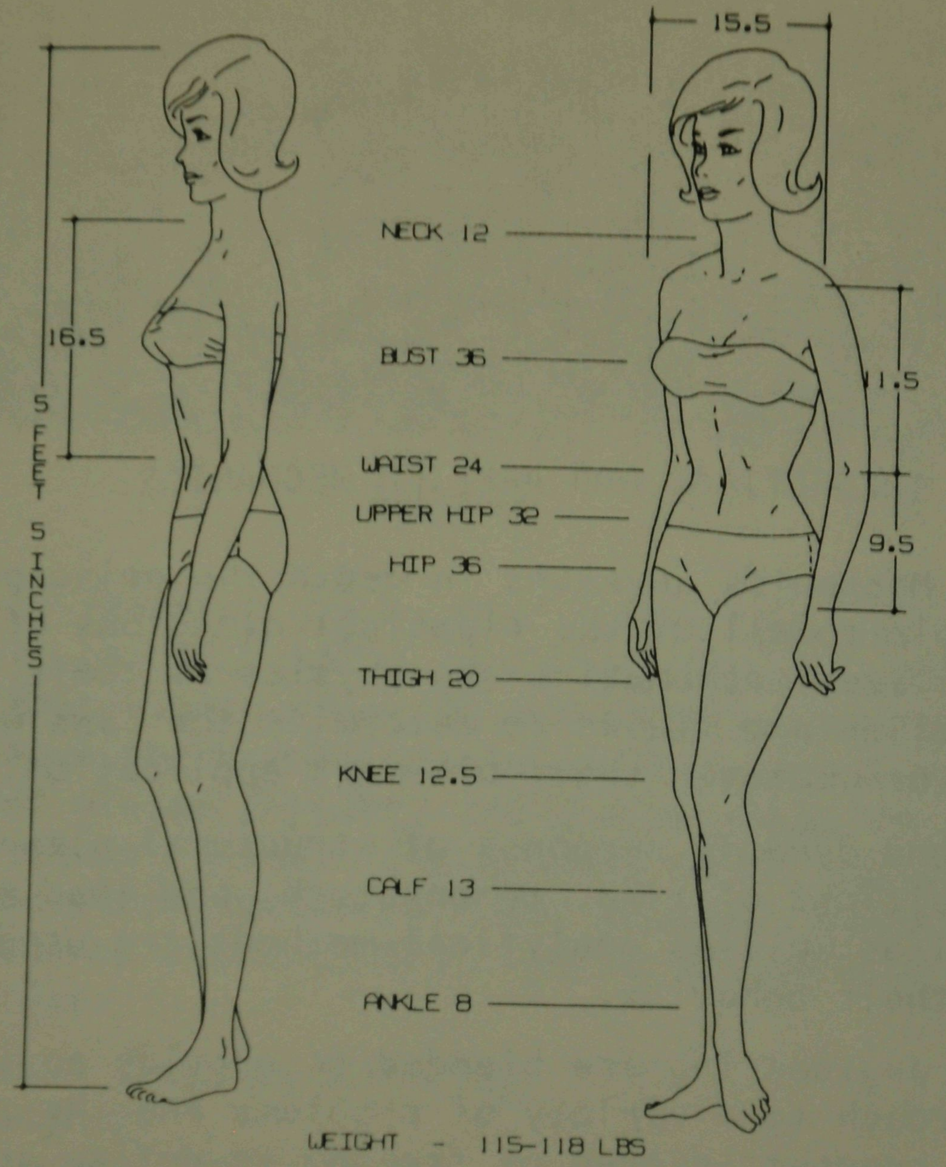
LEGEND

O BUS STOPS FOR AGRICULTURAL ENGINEERING

– — — — SUGGESTED WALKING ROUTES

1. Aeronautical Engineering Lab A
2. Aeronautical Engineering Lab B
3. Ceramic Engineering Building
4. Civil Engineering Building
5. Coordinated Science Laboratories
6. Digital Computer Laboratory
7. Electrical Engineering Building
8. EE Research Laboratory
9. Engineering Hall
10. Engineering Research Laboratory
11. Materials Research Laboratory
12. Mechanical Engineering Building
13. Mechanical Engineering Lab
14. Metallurgy and Mining Building
15. Nuclear Engineering Laboratory
16. Nuclear Reactor
17. Physics Building
18. Talbot Laboratory
19. Transportation Building
20. Woodshop and Foundry

UNIVERSITY OF ILLINOIS
ENGINEERING CAMPUS



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